

Applicant: RICHARDSON
Appl. No. 09/725,175

Amendments to the Drawings:

The attached sheets of drawings include changes to Fig. 1 and redrawn versions of Figs. 2 and 3 (without changes). In Fig. 1, textual titles have been added, as required by the Examiner. No changes were made to Figs. 2 and 3. The attached sheets of formal drawings replace the original sheets of formal drawings.

Attachment: Replacement Sheets (3)
Annotated Sheet Showing Changes to Fig. 1

Remarks

Applicant thanks the Examiner for his careful consideration of this application.

Reconsideration of this application is now respectfully requested in view of the amendments above and the following remarks.

Claims 1-30 are now pending in the application, with Claims 1, 14, and 21 being the independent claims. Claim 21 has been amended to correct a minor typographical error in which a word was inadvertently omitted.

Applicant gratefully acknowledges the indication of allowable subject matter in Claims 8, 12, 13, 20, and 26-30. Applicant has decided not to incorporate the subject matter of the claims from which these claims depend at this time.

At Page 2 of the Office Action, corrected drawings are required, including the addition of textual titles to Figure 1 and redrawn versions of all of the figures. In response, Applicant now submits an annotated sheet showing the changes to Figure 1 and new formal sheets of drawings corresponding to Figures 1-3 and including the changes to Figure 1. Applicant requests approval of the corrected formal drawings.

Also at Page 2, the Office Action rejects Claims 7 and 9 under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant respectfully traverses these rejections for the following reasons.

In regard to Claim 7, the Office Action maintains that the phrase, "mid point of the transmission line" is indefinite without a recitation of where the ends of the transmission line are located. However, Applicant notes that every transmission line *inherently* has a mid-point, namely the middle of the transmission line, regardless of where its ends are located and regardless of its length or shape. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

In the case of Claim 9, the Office Action states that the meaning of "local low tension" is not understood. This phrase appears in Applicant's disclosure, e.g., at Page 3, third paragraph, Page 5, second paragraph, and Page 6, second paragraph. "Low tension" (or "LT") is a term of art that means low power or low voltage. It is respectfully submitted that, given the above-cited passages, one of ordinary skill in the art would understand that "local low tension on each module" in Claim 9 is referring to low power or voltage and that "local" is with respect to the module. Therefore, Applicant respectfully submits that Claim 9 is not indefinite and requests withdrawal of this rejection.

At Page 3, the Office Action rejects Claims 1, 4, 14, and 17 under 35 U.S.C. § 102(b) as being anticipated by Itani (U.S. Patent No. 4,535,400). Applicant respectfully traverses these rejections for the following reasons.

The invention as claimed in Claim 1, for example, includes "a primary transformer loop in the form of a transmission line which is common to each module." Itani fails to disclose or suggest such an arrangement. Itani, e.g., at col. 3, lines 29-38, discloses an arrangement in which there are a number of pulse transformers in which the primary windings of these pulse

transformers are connected in series. This is fundamentally different from having a single transmission line serve as the primary winding of a number of transformers, as claimed.

Applicant further notes that this limitation is common to all of the independent claims. Hence, for at least this reason, Applicant respectfully submits that Itani does not anticipate the invention as claimed in Claims 1, 4, 14, and 17.

At Pages 3-4, the Office Action rejects Claims 2, 4, 5, 11, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Itani in view of Horna (U.S. Patent No. 3,717,808). Applicant respectfully traverses these rejections for at least the following reasons.

In particular, the arguments discussed above with respect to Itani are applicable to these rejections, as well. Furthermore, Horna fails to disclose or suggest anything that would remedy this deficiency of Itani (i.e., with respect to the single transmission line being used as the primary winding of a number of transformers, as claimed). For at least this reason, it is respectfully submitted that Claims 2, 4, 5, 11, and 15 are allowable over the combination of Itani and Horna.

At Pages 4-5, the Office Action rejects Claims 1, 3, 4, 14, 16, 21, and 23 under 35 U.S.C. § 103(a) as being unpatentable over Ebersohl (EP No. 0,592,302) in view of Itani. Applicant respectfully traverses these rejections for the following reasons.

As discussed in the abstract, Ebersohl is directed to a system of auxiliary contacts for an electrical apparatus. At col. 3, line 57 to col. 4, line 53, the system, as shown in Figs. 3 and 4, is described in further detail. In particular, microprocessor 12 may indicate, for example, a closed state of a circuit breaker by maintaining a voltage at output 71. This voltage is used to power photodiodes 72 and 73, whose signals are conducted via optical fibers 74 and 75 to pulse

generators 78 and 79. These pulse generators supply a signal, via resistances 82 and 83, to line 84, which loops back to ground. Along line 84 are placed magnetic ferrite cores (e.g., T1 to T32) having single, unidirectional windings, each (e.g., B1 to B32), which are linked to circuits (e.g., K1 to K32) having respective output contacts (e.g., X1, Y1, . . . , X32, Y32). The output contacts may be used, e.g., for command, control, and visualization purposes. Fig. 4 shows an example of circuit K1 (and it is stated that the other circuits are identical).

As a result of the above-described arrangement, line 84 is not a transmission line in Ebersohl. Rather, line 84 is being used strictly as an inductive line, to transmit signals to the circuits by inducing currents in their respective windings. Hence, Ebersohl lacks the claimed transmission line, as in independent Claims 1, 14, and 21.

Also, as a result of this, it is further submitted that one of ordinary skill in the art would not consider combining the apparatus of Ebersohl with the apparatus of Itani, as they would not function together properly, due to the differences in the disclosed systems.

Furthermore, regarding Claims 3 and 16, Ebersohl, as discussed above, discloses a single secondary winding (B_n) on each core (T_n), and the turns are stated as being unidirectional. Hence, Ebersohl lacks the claimed "two transformer secondary windings on a module [that] have an equal number of opposite turns and are connected in parallel." Furthermore, as discussed at col. 4, lines 24 ff., the secondary windings in Itani are also not an equal number of opposite turns. Hence, it is submitted that these claims are also allowable for these further reasons.

At Page 5, the Office Action rejects Claims 6, 7, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Itani in view of Doss et al. (U.S. Patent No. 3,603,887). Applicant respectfully traverses these rejections for at least the following reasons.

First, the Office Action relies on Itani to disclose the switching arrangement except for the transmission line load resistor. However, as discussed above (see discussion of Claims 1 et al.), Itani fails to disclose this subject matter.

Second, the Office Action relies on Doss et al. to teach the claimed transmission line load resistor. The Office Action at Page 5 asserts that R_1 in Fig. 1 of Doss et al. is a *current limiting* resistor, also as stated at col. 4, line 8 of Doss et al. However, a *current limiting* resistor is not the same as the claimed *load* resistor. A current limiting resistor may, in general, be chosen as required to limit current, whereas the load resistor is generally chosen according to transmission line characteristics, for example, for impedance matching (e.g., to reduce effects like ringing). Hence, these are two different concepts altogether, and Doss et al. fails to teach the claimed load resistor.

Furthermore, for similar reasons, it is not merely an engineering decision to place a load resistor at the mid-point of a transmission line. In particular, one of ordinary skill in the art would choose the placement of a load resistor, again, based on the characteristics of the transmission line. That is, the location of the resistor may affect the transmission characteristics. Hence, it is not an arbitrary decision to place the load resistor at the mid-point of the transmission line, as claimed in Claims 7 and 19.

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At Pages 5-6, the Office Action rejects Claims 22 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Ebersohl in view of Itani and Horna. Applicant respectfully traverses these rejections for at least the following reasons.

Applicant respectfully submits that the arguments presented above in connection with the combination of Ebersohl with Itani and the arguments presented above in connection with the combination of Itani with Horna are equally applicable here.

At Pages 6, the Office Action rejects Claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Ebersohl in view of Itani and Doss et al. Applicant respectfully traverses these rejections for at least the following reasons.

Applicant respectfully submits that the arguments presented above in connection with the combination of Ebersohl with Itani and the arguments presented above in connection with the combination of Itani with Doss et al. are equally applicable here.

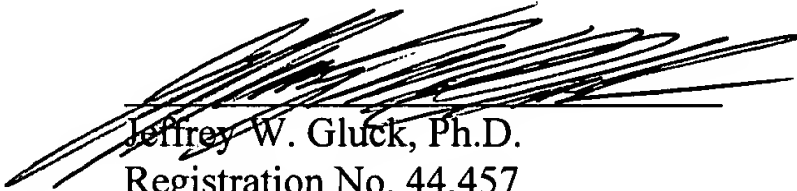
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant, therefore, respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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